

Potato starch was used as a bonding agent in this example, but as an alternative it is generally possible to use bonding agents obtained from plants (starches, fecula, flours, cellulose derivatives) or from animal tissues (fish glue, bone glue, skin glue), so long as they are biodegradable.

5 Preferably bonding agents based on synthetic polymers are not used.

The bonding agent and other colloidal substances, such as humus and clay, cause the final structure of the resulting sod to be an aggregate of glomerules, whereby adequate porosity of the soil is ultimately obtained. The porosity involves micropores inside the glomerules, which are useful
10 for future absorption of water, and macropores between the glomerules, which are useful for air circulation that is also very important for the roots. Porosity of the sod may also assist in drawing, by capillary action, water from subsoil in case of accidental lack of watering.

The formed tiles, carried by the conveyor belt 3 or by a second conveyor
15 belt (not shown in the drawings), were laid in a store 10 provided with apertures to ensure ventilation, where the starch is set, thereby obtaining a suitable loss of moisture before packaging. Instead of a greenhouse, it is possible to use any source of heat at low temperature or any other dehumidification system. The same can also be done beforehand with the
20 various materials before being mixed, although there is a higher risk of them being infested by weed seeds and spores and thus it is convenient to use dry materials which are possibly appropriately packaged. It is important that the components of the mixture and particularly the bonding agent do not release too much moisture to the seeds in the steps before dehumidification.

25 The tiles were then packaged under vacuum with impermeable films and stored.

After several months, they were transported to the laying site, where a subsoil had been prepared which consisted simply of 5 to 25 cm of growing medium on a main gravel layer with good permeability. The subsoil must of
30 course have a surface which is arranged according to a final contour to be

achieved and must then be prepared so as to form the desired flat areas, elevations and depressions.

The tiles were laid at the end of March and watered with 5 liters of water per square meter every day in the early hours of the morning until the grass emerged. Subsequent watering was less frequent but more abundant, thus maintaining the average amount of water supplied. Once the tiles were removed from the packages, placed on the ground and moistened, the natural physical and biochemical phenomena of the soil were triggered. The slow-release fertilizer began to release its mineral salts into the solving water. Bacterial species taking part in nitrogen cycle transformations began to form and become active. In addition to other types of bacteria, many microorganisms such as algae, actinomycetes, protozoa were also formed, not to mention the many higher species. All these living beings contribute to the formation of humus and mineral substances, the decomposition of organic matter and bonding agent, the aggregation of particles and the churning of the soil.

If it is required to obtain grass bud quickly, one can perforate the impermeable packagings and moisten the tiles even before they are transported and laid, so as to activate their biochemical activity immediately.

The tiles have relatively precise geometric dimensions, so that no gaps remain between them during laying. However, if laying is executed in a hurry or there are sudden variations in level (steep elevations and depressions) and gaps are delimited between the tiles, the gaps can be filled with sand. This is useful, even because in laid-on gardens it is advisable to periodically perform more or less dense corings in the soil and fill the resulting holes with sand or sand mixed with peat. This operation, which is commonly performed on golf greens or sports fields, is known as aeration followed by plugging and is designed to eliminate compacting of the soil, to increase the percentage of macropores, to assist root growth, and to improve

microbiological activity and permeability to water.

It was found to be easy and creative to form flowerbeds including colorful floral patterns by alternating the tiles that formed the grassy sods described above with others which contained seeds of impatiens, which thrive in shaded areas and are suitable for forming borders and patches. Said tiles had been produced with the above described process and had the following composition:

-- soil composed of 1/3 sand, 1/3 clay and silt, 1/3 peat and amendments obtained from biocomposting;

-- fertilizer constituted by algae extract;

-- fish glue as natural bonding agent;

-- selective herbicide for monocotyledons;

-- seeds of perennial *Impatiens Walleriana* (impatiens).

The tiles can be colored on the surface with a harmless dye which makes it possible to distinguish them according to their type and to visualize them better during laying, when patterns are to be formed.

The tiles at the borders of the lawn or at the borders of the flowerbeds can be cut, if necessary, in order to obtain the right size and follow the border, especially in the case of lawns with curvilinear edges.

Example 2

Reference should be made to Figure 2 for this example.

A sports playing field according to DIN standards was provided by forming the entire cultivation medium by means of transportable blocks. Only the drainage system and, above it, a layer of 10-15 cm of fine gravel were prepared on-site.

The blocks were again produced by means of a conveyor belt on which hoppers dropped their contents in successive locations.

A hopper 2 contained a mixture of dry sands, dry-mixed beforehand by a mixer 1, so as to produce soil having the following grading:

-- maximum content of particles having a diameter of 0.02 mm: 10% by